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**A Brief Review of our Species of MAGDALIS, with  
Notes and Descriptions of other North  
American Rhynchophora.**

BY H. C. FALL.

**MAGDALIS** Germ.

The following notes are the result of an attempt to separate in my own collection the species of this genus having simple claws. A small number of specimens have been contributed or loaned for study by Dr. Van Dyke, Mr. Frederick Blanchard, Mr. C. A. Frost and Mr. Percy G. Bolster, but the conclusions reached have been based for the most part solely on my own material. Some of these conclusions I have held to be in a measure tentative, but in this connection it is gratifying to add that an examination of upward of 500 specimens from the National Museum and Forestry Collections, which unexpectedly came to me shortly after the completion of this manuscript, has left the systematic conclusions virtually unchanged. This large collection has furnished, however, a considerable number of localities and some interesting biological data.

The group of forms in the vicinity of *gentilis* is particularly puzzling and troublesome, owing perhaps to the greater or less instability of many characters generally useful in determining species. Certain individuals tend to bridge the gap between this species (*gentilis*) and some of the assumed varieties of *lecontei*, and a more thorough study of long series from many localities, coupled with a knowledge of life histories is needed here.

In the following descriptions length of body is measured from the base of the beak to the tip of the elytra; the point of antennal insertion is taken as the anterior basal extremity of the scape at the point of junction with the ball and socket joint.

The types of all the new species described in this paper are in my collection.

Our species may be primarily grouped as follows:

Antennal club normal in both sexes.

Femora not toothed, the anterior ones obliquely impressed at base on the posterior face ; hind angles of thorax feebly produced and scarcely at all everted.....Group **CUNEIFORMIS**.

Femora toothed, not impressed at base ; hind angles of thorax more or less produced and divergent. ....Group **LECONTEI**.

Antennae inserted approximately at basal two-fifths of the beak in the ♂, and at basal one-third in the ♀.

Subgroup *lecontei*.

Antennae inserted at or slightly behind the middle in the ♂, a little more posterior in the ♀, usually at or near basal two-fifths.....Subgroup *gentilis*.

Antennae inserted distinctly beyond the middle in the ♂, and at about the middle in the ♀ .....Subgroup *alutacea*.

Antennal club in the ♂ greatly elongate and thickly clothed with erect pile.....**barbicornis**.

### Group **CUNEIFORMIS**.

Blue, moderately shining, first and second funicular joints subequal, the first not much stouter. Length  $5\frac{1}{2}$ –8 mm..**cuneiformis**.

Black.

Elytral intervals wider than the striae, except occasionally in *hispidoides*.

First and second funicular joints subequal, the first not or scarcely wider than the second ; strial punctures of elytra smaller, intervals perfectly flat and nearly three times as wide as the punctures at middle of disk ; body beneath densely punctate. Size large, 6 mm.....**morio**.

First funicular joint much stouter than the second ; strial punctures of elytra larger, the intervals flat or slightly convex and from one to two times as wide as punctures at middle of disk ; body beneath rather sparsely finely punctate ; size smaller,  $3-4\frac{1}{2}$  mm.....**hispidoides**.

Elytral intervals narrower than the striae ; punctuation coarse ; size  $4\frac{1}{2}$ – $5\frac{1}{2}$  mm.....**perforatus**.

### Group **LECONTEI**.

#### Subgroup *lecontei*.

Size larger,  $3\frac{1}{2}$ –7 mm. ; color typically rather brilliant blue or blue-green.....**lecontei**.

Color purpureo-violaceous, varying to green.....var. **superba**.

Color black throughout .....var. **tenebrosa**.

Color black, elytra dark blue or bluish-black...var. **tinctipennis**.

Size smaller, 3–4 mm. ; black throughout, or with the elytra faintly bluish.

Prothorax strongly convex, beak longer and more arcuate, elytra faintly bluish, moderately shining, intervals narrow, convex.

**convexicollis.**

Prothorax normally convex, beak less strongly arcuate, color black, lustre dull, elytral intervals flatter and more rugose.

**austera.**

Prothoracic punctures more or less longitudinally confluent, elytra with dark blue or greenish lustre.....var. **substriga.**

### Subgroup *gentilis*.

Femoral tooth obtuse, rudimentary, antennae (♂) inserted very slightly behind the middle of the beak, second funicular joint much less than twice as long as wide.....**vitiosa.**

Femoral tooth acute, well developed.

Elytral striae lightly or scarcely impressed, the intervals nearly flat.

Beak in ♂ fully as long as, and in the ♀ distinctly longer than the prothorax.....**gentilis.**

Beak in ♂ evidently shorter than, and in the ♀ subequal in length to the prothorax; eyes a little less distant; entirely black, surface duller and more rugose.....**proxima.**

Elytral striae rather strongly impressed, the intervals distinctly convex ..... **striata.**

### Subgroup *alutacea*.

Black, opaque, head rather sparsely punctate; antennae (♀) inserted at the middle of the beak, funicle more slender...**alutacea.**

Reddish-brown, opaque, head very densely punctured, antennae (♀) inserted distinctly beyond the middle of the beak, funicle stout.....**imbellis.**

### **M. cuneiformis** Horn.

The type of this species is from Nebraska and is in the Ulke Collection. At the time of its description by Horn no other specimens were known, but there are now in his collection examples from Colorado, Montana and Washington. Snow records it from New Mexico, and my own specimens were taken in the San Bernardino Mountains of California. Horn merely says in his description "surface blue," but in all examples known to me (I have not seen the type) the prothorax is nearly or quite black, the elytra dark blue. It is worthy of remark that in all the specimens examined the

hairs of the under surface are entirely simple, even upon the episterna, which are so often clothed with radio-pectinate hairs in this genus.

**M. morio** n. sp.—Rather strongly cuneiform black throughout, lustre dull, above glabrous, beneath with sparse fine hairs, a few of which become radio-pectinate on the sternal side pieces. Beak ( $\sigma^7$ ) evenly moderately arcuate, three-fourths as long as the head and prothorax, evenly rather closely punctate, a short smooth line above the insertion of the antennae, Antennae inserted at basal three-sevenths, scape reaching the eye, first and second funicular joints subequal, each a little less than twice as long as wide, the second about as long as the third and fourth together. Head moderately punctate, a small fovea or impressed puncture between the eyes, the latter rather flat and separated by about three-fourths the width of the beak. Prothorax conical, as wide at base as long, sides nearly straight, suddenly constricted at apex, surface densely rather coarsely punctate, without trace of median impunctate line. Elytra gradually widening to apical third, where they are one-half wider than the greatest thoracic width; stria punctures rather fine, striae not impressed, intervals wide, flat, interstitial punctures fine, forming a single line on the eighth interspace, more or less irregular or double on the others. Body beneath densely punctured. Length 6 mm.

Santa Rita Mountains, Arizona (Snow); Chiricahua Mountains, Arizona (Hubbard and Schwarz); Magdalena Mountains, New Mexico (Snow).

The type is a  $\sigma^7$  from the first named locality, and has the abdomen concave at base, the median portions of the last three or four segments clothed with numerous short erect hairs.

It differs from *cuneiformis* by its color, dull lustre, finer less impressed elytral series and wider intervals.

**M. hispidoides** Lec.

This species is quite out of place in the Check List, doubtless because Le Conte in his description made no comparisons with older forms; the simple femora and claws, however, at once declare its position. It is very widely diffused, occurring from Maine to British Columbia (type locality) and extending down into New Mexico and California. Some variation exists as might be expected in so wide a range, the Californian specimens showing a tendency toward a

greater width and convexity of elytral intervals than in the more northern and eastern specimens.

The species is known to me from Kineo, Maine; White Mountains, New Hampshire; Brookline, Mass.; Port Huron, Mich.; "Canada;" Porvenir, New Mexico; British Columbia, and Lake Tahoe, California. Ulke records it in his District of Columbia List as occurring on pines. The species referred to by Bowditch in his Mt. Washington List as "n. sp. near *hispidoides*," and that taken by Schwarz at Garland and Veta Pass, Colorado, and listed by Le Conte as "sp. near *hispidoides*" will, I suspect, prove to be no more than slight variations of this wide spread species.

**M. perforatus** Horn.

A well known species, easily recognized by its very coarse, deep, dense sculpture, with unusually narrow elytral interspaces. The antennae are said by Horn to be median, but are really post-median in both sexes, as in all the species of this group.

It occurs all the way from New Hampshire to Georgia (type locality). There is a Michigan specimen in the Horn Collection, and it is recorded in Wickham's Iowa List.

**M. lecontei** Horn.

Several distinct species are included under this name in collections, those in my own collection being easily differentiable by the characters in the preceding table. Of these the true *lecontei* is much the largest, specimens under 4 mm. in length very rarely occurring, while this size is seldom if ever attained by any of the allied species. *Lecontei* is rather common in the Rocky Mountains and westward, but does not, so far as I know, cross the plains to the east. Horn in his description says "Kansas to Oregon and California," and it would be interesting just now to know the precise locality and identity of his Kansas specimens.

Aside from the very obvious differences in size and color, two other characters may be mentioned which separate *lecontei* from other species of this group. The second funicular joint is unusually elongate, being fully twice as long as

wide and as long as the two following. The lengths of the funicular joints are subject to a little individual variation, and occasional specimens may prove disconcerting; the difference is, however, perfectly obvious in a series. Again, the elytral interspaces in males of *lecontei* and in both sexes of the related species show a single line of interstitial punctures with rarely any marked tendency toward irregularity; in females of *lecontei*, however, the interspaces are unusually wide, the interstitial punctures small, and on several of the intervals form confused or double lines.

Three color varieties are thought worthy of distinctive names.

Prothorax dark purplish-blue, elytra violaceous, varying to entirely brilliant green.....**superba** new var.  
 Color entirely black .....**tenebrosa** new var.  
 Black, elytra dark blue or bluish-black.....**tinctipennis** new var.

The former (*superba*) is known to me from Arizona (type ♂ from Prescott), the second (*tenebrosa*), type sex doubtful, from Porvenir, New Mexico, Colorado and California; the last from Cloudcroft, New Mexico, and Williams, Arizona. Of these *tinctipennis* is most aberrant, and may possibly prove distinct; there seems, however, to be a gradual approach to the typical form.

**M. convexicollis** n. sp.—Smaller and a little narrower than *lecontei*, cuneiform, black, the elytra bluish, moderately shining. Beak (♂) longer than the prothorax, strongly evenly curved, punctured as in *lecontei*. Antennae inserted at basal two-fifths of the beak, second funicular joint distinctly less than twice as long as wide and shorter than the two following together. Prothorax strongly longitudinally convex, fully as long as wide, sides broadly nearly evenly rounded, not much more strongly so in front; apical constriction feeble, surface densely rather coarsely punctate without trace of smooth median line. Elytral striae well impressed, intervals rather narrow and convex, each with a single line of moderately strong punctures. Body beneath as in *lecontei*, the hairs more uniformly compound. Femoral tooth acute but not large. Length  $3\frac{1}{4}$  mm.; width 1.35 mm.

*Type*.—♂; San Bernardino Mountains, Southern California; 5000 feet.

Easily separable from *lecontei* by the small size, somewhat narrower form, more convex thorax, which is less narrowed anteriorly, short second funicular joint and more strongly impressed elytral striae, with narrower more convex intervals. The smooth median prothoracic line is very rarely entirely lacking in *lecontei*.

**M. austera** n. sp.—Dull black, elytra rarely with faintest suspicion of blue, prothorax wider than long, apical constriction strong, surface densely punctate, without or with but slight trace of short median smooth line; elytra parallel or nearly so in the ♂, a little widened behind in the ♀; striae of coarse oblong punctures, scarcely or feebly impressed, intervals nearly flat with single lines of rather coarse interstitial punctures; femoral tooth small but acute. Length 3–4 mm.

The type of this species is a ♂ from Ridgeway, Ontario, sent me many years ago by Mr. A. H. Kilman. Other examples before me are from "Canada;" Maine (Monmouth—Frost); New Hampshire (Farmington); Massachusetts (Concord and Framingham); Michigan (Marquette, Detroit, Port Huron); North Carolina (Retreat); New York; Ontario (Toronto).

The small size, dull black or nearly black color, with relatively rougher surface sculpture, and more parallel elytra separate this species from typical *lecontei* easily enough.

The following form in typical specimens differs so much from typical *austera* as to present the appearance of a distinct species, which, indeed, I at first supposed it to be. With increased material intermediate forms turned up, and with present light I can give it varietal standing only.

**M. austera** var. **substriga** n. var.—Black, elytra dark blue or greenish, moderately shining, evidently but not strongly widened posteriorly. Prothorax closely punctate, the punctures becoming more elongate toward the middle, where they are more or less conspicuously longitudinally confluent. Second funicular joint less than twice as long as wide and shorter than the two following united; elytral striae evidently impressed, but with the intervals nearly flat, and with single series of moderately coarse interstitial punctures. Length 3.2–4 mm.

Massachusetts (Tyngsboro—type, ♂, Dover, Brookline); New York (Peekskill).

The strigose or substrigose prothorax primarily separates



this variety from typical *austera*. In addition, the elytra seem to have normally a distinct blueish or greenish lustre, to be rather more widened posteriorly and to have the striae more evidently impressed. The form of body is nearly the same as in *lecontei*, but the size, color, shorter second funicular joint, more evidently impressed striae and single regular series of larger interstitial punctures in the ♀, are quite sufficient for its separation, even if the locality label is not conclusive—as seems probable.

**M. vitiosa** n. sp.—Black, lustre dull, elytra a little wider behind in the ♂, distinctly so in the ♀. Beak subequal in length to the prothorax (♂), slightly longer (♀), moderately arcuate, closely rather coarsely punctate. Antennae inserted slightly behind the middle, second funicular joint short, obviously less than twice as long as wide. Prothorax a little wider than long, sides subparallel in basal half, rounded anteriorly with a moderate apical constriction; punctuation dense, without or with but slight trace of smooth median line near base and apex. Elytral striae scarcely impressed, intervals nearly flat and with single series of rather coarse interstitial punctures. Femoral tooth rudimentary, nearly obsolete on the hind thighs. Length 3.1–3.3 mm.

*Type*.—♂; Lake Tahoe, California.

**M. gentilis** Lec.

This species was described from two examples collected by Crotch at Lake Tahoe. The type is a ♂, 4 mm. long, and differs from *vitiosa* in having the elytra blueish and evidently smoother and less dull, thorax with entire smooth median line, the femoral tooth large. The second example is apparently a ♀, considerably smaller and possibly not identical with the ♂ type. The second funicular joint is not quite twice as long as wide in the type and is still shorter in the smaller ♀, in which it is nearly as in *vitiosa*. The relative dimensions of the antennal joints are, however, subject to some individual variation and are not to be depended on except in series. I am placing as *gentilis* provisionally a number of examples taken by Dr. Fenyès at Lake Tahoe, which have the second funicular joint more slender, nearly or quite twice as long as wide, but which agree fairly well with the type in nearly all other characters. I am also com-

pelled to place here for the present sundry examples from other regions, namely, specimens from Paris and Kinco, Maine, collected by Frost and Fenyès respectively, a ♂ from Fitzwilliam, New Hampshire (Blanchard), a ♂ from Mt. Washington, New Hampshire (Dimmock), and a ♀ from Greenbush, Saskatchewan, contributed by Mr. T. N. Willing and bearing the name *subtinctoria* and the legend "emerged from spruce Apr 13 '06." These examples exhibit more or less trifling differences from typical *gentilis* and from each other, but it is absolutely impossible to define them specifically with the limited material at hand.

**M. proxima** n. sp.—Black, surface lustre dull, elytra feebly widened behind in the ♂, distinctly so in the ♀. Beak (♂) short, scarcely as long as the prothorax, antennae inserted very near the middle; in the ♀ the beak is subequal in length to the prothorax, with the antennae inserted about two-fifths from the base. Second funicular joint scarcely twice as long as wide and rather shorter than the next two. Prothorax densely punctate, smooth median line very narrow but entire or nearly so. Elytral striae scarcely or but feebly impressed; interstices nearly flat, for the most part with single regular series of moderately coarse punctures. There is a little tendency to irregularity on the second and third interspaces; on the first and ninth the irregularity is obvious, as it is to a greater or less extent in all the species here considered. Femoral tooth moderate. Length 3.6–4.2 mm.

*Type*.—♂; from Santa Clara County, California (C. F. Baker); Humboldt County, California (H. S. Barber).

The eyes in the male type are separated by scarcely more than two-thirds the width of the beak. In *gentilis* the distance is a little greater, about three-fourths the width of the beak so far as observed.

**M. striata** n. sp.—Black, moderately shining, gradually wider behind. Beak as long as the prothorax in the ♂, closely punctate, with the antennae inserted just behind the middle. In the ♀ the beak is a little longer and less densely punctate, the antennal insertion at about the basal two-fifths. Second funicular joint nearly twice as long as wide, but scarcely as long as the next two. Prothorax densely punctate, median smooth line sometimes entire, usually more or less imperfect, and occasionally nearly wanting. Elytral striae rather deeply impressed, the oblong punctures in consequence ill-defined. Intervals convex, coarsely uniseriately punctate. Length  $3\frac{1}{2}$ –4 mm.

*Type*.—♂. Described from a good series taken on Mt. Wilson in southern California.

This, by the more shining and uniformly rather deeply striate elytra is the best characterized species of the *gentilis* group. As in *proxima* the eyes in the ♂ are separated by scarcely more than two-thirds the width of the beak, and thus make an approach to *alutacea*, in which the approximation is still closer. In the ♀ of *striata* the eyes are distant about three-fourths the rostral width, the sexual disparity in this respect being rather better marked than in any other of the allied species.

#### **E. alutacea** Lec.

Beak in the ♂ stout, alutaceous and opaque, a little wider beyond the base of the antennae, which is at about the apical third. In the ♀ the beak is more slender, less dull, the antennae inserted at the middle. The eyes are less widely separated in the ♂ than in any species of the preceding groups, their distance apart being about one-half the width of the beak in the ♂ and three-fourths in the ♀. In all the preceding species the eyes are separated by approximately three-fourths the width of the beak in both sexes, the sexual disparity being at most but slight. In *striata* and *proxima* the eyes seem to be a trifle closer than in the other species of the subgroup. Le Conte's description of *alutacea* is based upon two specimens, both ♀'s, one from the Colorado Rockies, the other from Isle Royal, Lake Superior. The first named bears the label and is to be considered the type. It is alutaceous with a rather smooth silky lustre (under low power), the elytral intervals rather wide and flat, the striae unimpressed. In the Isle Royal specimen the striae are slightly impressed, thus approaching somewhat *gentilis* in appearance. In some examples from California and Oregon the striae are obviously a little impressed and the sculpture rougher, but these variations are gradual and not confined to particular regions. From *gentilis* and from black examples of *lecontei* (var. *tenebrosa*), *alutacea* may in the absence of ♂'s be distinguished by the relatively longer and more slender basal joint of the hind tarsi. The much more

basal insertion of the antennae in ♀'s of *lecontei* will, of course, make separation easy, but in ♂'s of *lecontei* and especially in *gentilis* this difference is less marked.

In distribution as well as in degree of interspecific variation, *alutacea* rather closely parallels *hispidoides*. Examples are known to me from New Hampshire, Lake Superior, Rocky Mountain region from Alberta (Bannf) to New Mexico at altitudes of 9000 to 11,000 feet in Colorado and New Mexico, British Columbia (Emerald Lake); Vancouver; Oregon (Portland) and California (Lake Tahoe, Kings River and Santa Monica).

**M. imbellis** Lec.

A single ♀ from Sonoma County, California (Van Dyke Collection), is before me. The type—a unique ♀—was from Oregon. The species may be at once known by the tabular characters. In the specimen at hand the third and fifth elytral intervals are wider.

**M. barbicornis** Latr.

This European species is included on the basis of a specimen from Long Island (New York) in the Linell Collection, and a small series taken on elm at Dorchester, Mass., by Mr. Percy G. Bolster of Boston. The latter specimens have been taken recently (June, 1909), but the Linell specimen must have been found many years ago. The ♂ of *barbicornis* (I have not seen the ♀) is at once known by the dense erect pile of the antennal club and two outer funicular joints, the club itself very elongate—as long as the entire scape and funicle. The beak is short and stout, about as long as the head, dilated beyond the antennal insertion which is at about the middle of its length; thighs not toothed; size rather small.

The species of *Magdalis* with toothed claws are less numerous than those with simple claws and will not now be treated at length; the following notes, however, may be of service, and will probably be sufficient for their separation. Of the nine species known, six occur in the eastern United States,

and three on the West Coast, one of which ranges as far east as Montana, Colorado and New Mexico.

Of the western species—*gracilis*, *aenescens* and *subtincta*—the first two are distinguished by the very densely punctate thorax and the obvious pubescence of the upper surface, the scutellum quite densely clothed. They are very closely allied, and dependence seems to have been placed entirely on the aeneous surface lustre of *aenescens*. This is feeble or entirely wanting in some specimens, which then are not distinguishable with certainty from *gracilis* by any characters that I can discover. In general it may be said that the elytral striae are less deep and the intervals less convex toward the suture, with a slight tendency to alternation in convexity posteriorly in *aenescens*, but these characters fail more or less completely in some examples. In *gracilis* the striae are uniformly deep, the intervals convex and uniform so far as I have observed. *Aenescens* occurs from southern Alaska to northern California. *Gracilis* is found in the vicinity of San Francisco and also in western Nevada if I have correctly referred a number of specimens taken at Reno by Professor Wickham.

*Subtincta* differs from the two preceding by the more coarsely and less densely punctured thorax, and in none of the specimens at hand is there any obvious pubescence on the upper surface. The type locality is Gilroy, California, a little south of San Francisco, but the species is quite widely dispersed. It is known to me from many localities in California; from Oregon; Washington; Vancouver Island (Victoria); Montana (Kalispell); Colorado and New Mexico (Pecos and Poñil Cañon). Specimens taken by me on alders in the San Bernardino Mountains of California are evidently more shining than the type, but the differences seem to me no more than racial. In a Pasadena specimen the elytra are faintly greenish, in others there is a barely perceptible bluish tint, but the majority, including the type, are black or very nearly so.

Of the eastern species *olyra* is easily known by the distinct ochreous pubescence of the upper surface, the densely pubes-

cent scutellum, and in the great majority of specimens by the testaceous or piceo-testaceous antennae, tibiae and tarsi.

*Pandura* and *inconspicua* are small species with broad head and relatively sparsely punctured thorax, elytra rather conspicuously dilated posteriorly; black throughout with dull lustre. They are very similar to each other, but differ by the hind angles of the prothorax, which are broadly lamini-form in *pandura*, much less expanded in *inconspicua*. In *pandura* the elytral intervals are typically flatter than in *inconspicua*, but this character is apt to fail; the surface lustre is also somewhat duller as a rule.

In the remaining species—*salicis*, *barbita* and *armicollis*—the head is elongate conical and the prothorax densely punctate. *Salicis* is the smallest of the three, and differs from the others in its non-protuberant mesosternum. The scutellum is not densely pubescent, the abdomen similarly punctate in the sexes and the antennal scape attains the eyes.

*Barbita* and *armicollis* are as a rule much larger, though some males are very small. Both have the mesosternum protuberant, though Horn indicates this only for *barbita*, in which it is usually rather more pronounced. *Barbita* is entirely black with densely pubescent scutellum, and abdomen normally and similarly punctate in both sexes. The antennal scape lacks much of attaining the eyes in the ♀ and barely reaches them in the ♂.

*Armicoilis* is black with reddish or yellowish-brown elytra in the ♂, while the ♀ is entirely reddish-brown; the scutellum is not distinctly pubescent, the antennal scape nearly attains the eyes in the ♀, and passes their anterior margin in the ♂. This species differs from *barbita*, and in fact all our other species of the genus, in having the abdomen of the ♂ polished and impunctate along the middle, the smooth stripe limited on each side by a thin fringe of rather long and fine erect hairs. The terminal segment in this sex is truncate at apex with well defined though obtuse limiting angles.

The distribution of the eastern species is as follows so far as known to me.

- Olyra.**—New England States and Canada to Minnesota, and south to North Carolina and Missouri.
- Pandura.**—Massachusetts and Ontario to Wisconsin, and south to Missouri and Georgia.
- Inconspicua.**—Massachusetts and Ontario to Dakota and south to Pennsylvania, Ohio, Missouri and Texas.
- Salicis.**—Massachusetts and "Middle States" (Horn).
- Barbita.**—New England—Canada—to Dakota, and south to Georgia, Kentucky and Texas.
- Armicollis.**—Same as *barbita*.

### *Biological Notes.*

The following data accompanied the National Forestry Collection.

- Cuneiformis** var.—On *Pinus ponderosa*, Ft. Garland, Col., June 14, '06, bred June 15, '07.
- Cuneiformis** var.—On *Pinus echinata*, Hampton, Ark., bred Mar. 25, '07.
- Lecontei.**—On *Pinus lambertiana*, Mariposa Grove, Cal., June 11, '04; Summerdale, Cal., July 7, '06.  
*Pinus.*—Centerville, Id., July 28, '05; bred Apr. 7, '06.
- Lecontei** var. **superba.**—Catkin of *Pinus ponderosa*, San Francisco Mts., Ari., May, 26, '04. On *Pinus ponderosa*, Flagstaff, Ari., May 28, '04; Vermejo, New Mex., Aug. 24, '04.
- Austera.**—*Pinus strobus*, Ottawa, Can., Aug. 8, '05, bred Mar. 8, '06; Webster, N. H., Oct. 12, '06, bred Feb. 16, '07.  
*Pinus.*—Tryon, N. C., Apr. 11, '06, bred May 25, '06.
- Austera** var. **substriga.**—*Pinus strobus*, Webster, N. H., Oct. 12, '06, bred Feb. 16, '07.
- Gentilis?**—*Pinus jeffreyi*, Bishop, Cal., Oct. 4, '09, bred Feb. 14, '10.
- Gentilis?**—*Picea canadensis*, Camp Caribou, Me., June 11, '00.  
*Picea.*—Camp Caribou, Me., May 28, '00.
- Proxima.**—*Pinus radiata*, Palo Alto, Cal., May 19, '06.
- Alutacea.**—*Picea engelmanni*, Clyde, Col., Oct. 9, '05, bred Mar. 26, '06, to Aug. 15, '06.
- Aenescens.**—*Pyrus*, Corvallis, Or., Apr. 29, '99. *Alnus.*—Hoaquim, Wash., June 23, '03.
- Pandura.**—*Juglans nigra*, Kanawha Sta., W. Va., May 4, '05, bred Nov. 14, '05.
- Inconspicua.**—*Hicoria*, W. Va.
- Olyra.**—*Hicoria*, Kanawha Sta., W. Va., bred May 9; Milford, Pa., May 11; Tryon, N. C., July, '05, and Apr., '06.
- Barbita.**—*Alnus americana*, State College, Pa., Apr. 11, '10.
- Armicollis.**—*Ulmus*, Emporia, Kan., Oct. 3, '06, bred Apr. 10, '07.

**TRICHOMAGDALIS** new genus.

Very similar in general aspect and general structure to *Magdalis*, differing as follows: Upper surface moderately to rather densely pubescent, form more cylindrical, the elytra not at all widened posteriorly; beak straight, much shorter than the prothorax, the latter strongly convex in profile, the hind angles not produced or expanded; elytra transversely impressed before the apex; fifth ventral segment as long as the two preceding or nearly so. The claws are simple and the femora unarmed, as in some species of *Magdalis*.

Three Californian forms are known to me, all apparently very rare. The first to be described (*fasciatus*) may be regarded as the type of the genus, but they are perfectly homogeneous in all essential characters.

**T. fasciatus** n. sp.—Brown, integuments rugose and dull, rather densely clothed above with coarse recumbent hair, which is bright red-brown on the elytra, orange-red at the anterior margin of the prothorax; the basal half of the prothorax, base of elytra about the scutellum and beneath the humeral umbone, a transverse median fascia wider at the side margins, a lateral anteapical spot, and the apex whitish cinereous; pubescence beneath whitish, the posterior half of the abdomen orange-red with some pale hairs intermixed, chiefly at the middle and sides. The white hairs of the under surface and those on the posterior parts of the pronotum are fine and conspicuously plumose. Beak rather stout, two-thirds as long as the prothorax, nearly straight, gradually widened apically, coarsely densely punctate and glabrous. Antennae inserted at about the apical two-fifths, scape curved, barely reaching the eye, first and second funicular joints about twice as long as wide, the second a little shorter and narrower than the first, third to seventh gradually shorter and slightly wider, the seventh a little transverse; club cylindro-conical, as long as the five preceding joints. Eyes not very convex, separated by a distance equal to two-thirds the width of the beak at apex; a frontal puncture between the eyes. Prothorax as wide as long, sides strongly rounded, widest at middle, feebly constricted anteriorly, basal margin narrowly reflexed at sides; surface densely but not coarsely rugose-punctate. Legs moderately stout, femora nearly simple, tibiae strongly unguiculate at apex, the outer angle also of the front tibiae produced in a short acute spur; tarsi as long as the tibiae, penultimate joint bilobed; claws small, simple. Length, 4-4.5 mm.; width, 1.6-1.8 mm.

California: Pomona; Santa Monica; vicinity of San Francisco.



The type, and only example ever taken by me, was beaten from scrub oak in San Dimas Cañon near Pomona, April 30, 1892. A second example was taken at Santa Monica by Mr. Max Albright, from whom I received it. I have also seen an example in Dr. Blaisdell's Collection and another in that of Dr. Van Dyke, both taken near San Francisco.

**T. consperus** n. sp.—Narrow, cylindrical, black, upper surface mottled with coarse fawn colored appressed hairs which are so arranged on the pronotum as to leave the median line and a lateral spot each side subglabrous, and on the elytra are irregularly dispersed in small condensed areas; vestiture beneath of the same color as above, the hairs broadly plumose except on the last three ventral segments and toward the anterior margin of the flanks of the prothorax. Beak about three-fourths as long as the prothorax, less densely and rugosely punctured than in the preceding; antennæ inserted slightly behind the middle. Last ventral shorter than the two preceding; all else nearly as in *fasciatus*. Length, 5 mm.; width, 1.85 mm.

*Type*.—From Sylvania, California, April 4th. A single specimen received from Mr. L. E. Ricksecker. There are also single specimens in Dr. Blaisdell's and Dr. Van Dyke's Collections, taken near San Francisco.

The slightly longer and smoother beak and more posteriorly inserted antennae, with the shorter fifth ventral indicate that the type—and I think also the other two specimens—are females, and it has been suspected that this may be the ♀ of the preceding species. There is, however, no direct evidence to that effect, and if it should so prove, will constitute an instance of sexual disparity in color and arrangement of vestiture quite unparalleled among the Rhynchophora.

**T. atratus** n. sp.—Slender, parallel, black, clothed sparsely and uniformly with fine whitish pubescence, the hairs plumose beneath as in the two preceding species. The beak is nearly three-fourths as long as the prothorax, coarsely densely punctate; the antennae inserted a little beyond the middle; the fifth ventral nearly as long as the two preceding. Length, 3.4 mm.; width, 1.3 mm.

*Type*.—From Alameda County, California.

The unique type is doubtless a male, and differs much from *fasciatus* and *consperus* in its sparse fine whitish uniformly distributed vestiture. In other respects it agrees with its congeners.

## LIXUS Fab.

**L. maritimus** n. sp.—Rather slender, parallel, black, slightly shining, not densely clothed with short cinereous hair, which is feebly condensed in the usual thoracic vittae, on the third elytral interspace and in a broad sublateral vitta occupying intervals 7–9, but without nucleation at any part. Beak rather slender, nearly as long as the prothorax, at least in the ♀, not densely, finely punctate, with numerous coarser punctures toward the base; a deep fovea between the eyes and a linear one between the antennae. First and second funicular joints equal in length, the first a little stouter. Prothorax nearly or quite as long as wide, sides parallel or very faintly convergent and nearly straight to apical fourth or fifth, then rather abruptly constricted; median line narrowly impressed, a little more broadly and deeply so behind; coarsely and rather closely punctate, the interval finely closely punctulate. Elytra not quite two and one-half times as long as wide, but little wider than the prothorax and not quite three times as long, sides parallel in basal three-fifths, thence gradually narrowed, tip acutely not deeply notched; elytral series not impressed, moderately coarse. Thighs feebly annulate; hind tibiae about three-fourths as long as the femora. Length (exclusive of beak), 6.7–10.4 mm.; width, 1.9–3 mm.

*Type*.—From Santa Monica, California.

Found about the roots of plants growing on the sand dunes immediately adjacent to the beach. I have long associated this species with *semivittatus* Csy. of Arizona and Utah, to which it is closely similar. The difference in habitat would certainly indicate specific distinction, and a closer study convinces me that this is the case. The chief differences observable are as follows: There is never any trace of a vitta on the fifth interspace of the elytra in *maritimus*, the other vittae being at best feebly defined and evident only in well preserved specimens. The beak is a trifle longer, the prothorax rather more densely punctured and the tibiae relatively a little longer, being about three-fourths as long as the femora, while in *semivittatus* they are about two-thirds as long.

**L. perlongus** n. sp.—Very elongate, subcylindrical, black, feebly shining; pubescence yellowish-gray, sparse and short on the thoracic disk, denser in a distinct moderately wide lateral vitta; evenly nucleated throughout on the elytra, somewhat denser laterally but without well defined vitta. Beak cylindrical, moderately curved, not stout, a little longer than the prothorax, not at all carinate, rather finely and closely

punctate, the punctures shallow and more or less confluent longitudinally; a small interocular fovea. Antennae inserted a little beyond the middle of the beak, first and second funicular joints equal, the first scarcely stouter, each equal in length to the third and fourth combined. Prothorax conical, nearly as long as wide, sides very feebly arcuate and regularly convergent from the base; surface evenly convex except for a small feeble antescutellar impression; punctuation fine and not very distinct, with sparser somewhat larger punctures intermixed. Elytra slightly wider than the thorax, three times as long as wide and almost four times as long as the prothorax, sides parallel and straight, humeral angles evident, disk with unimpressed rows of fine subelongate punctures. Legs rather slender, thinly and evenly gray pubescent. Length, 13.5 mm.; width, 3.25 mm.

*Type*.—From Chiricahua Mountains, Arizona.

A single example of uncertain sex collected and given me by Mr. V. L. Clemence. This species is not very closely allied to any of our previously described species, but will go with those species under "10" in Casey's table. It is more elongate than any other known to me.

**L. peninsularis** n. sp.—Moderately slender, subcylindrical, black, scarcely shining, evenly rather thinly clothed throughout with very fine, short cinereous recumbent hair, with a few sparse, short, but longer erect hairs visible in profile, especially on the declivity of the elytra. Beak (♂) about four-fifths as long as the prothorax, cylindrical, moderately stout, feebly curved, rather coarsely punctate, with intermixed finer punctures; in the ♀ as long as the prothorax, more slender and shining, with the apical parts finely and sparsely punctate; median line obtusely prominent basally but scarcely carinate, Antennae inserted slightly beyond the middle (♂), or a little behind the middle (♀); first and second funicular joints subequal, each about as long as the third and fourth united. Head with sparse duplex punctuation, closer in the ♂; frontal fovea strong but small. Prothorax subquadrate, a little wider than long, sides just visibly convergent and straight, abruptly constricted near the apex; punctuation rather sparse and coarse, the interspaces finely densely punctulate; basal impression small and feeble. Elytra a little more than two and one-half times as long as wide, just perceptibly wider than the prothorax and about three times as long; humeral prominence very small and obtuse, sides straight and parallel in basal three-fifths, apex feebly narrowly notched, serial punctures moderately coarse. Pubescence beneath a little longer and denser than above. Length, 10.6–11.3 mm.; width, 2.9–3.1 mm.

*Type*.—♂; from San Jose del Cabo, Lower California (Fuchs); one pair.

Rather closely allied to *maritimus* and *semivittatus*, but differing conspicuously by the perfectly uniform vestiture which shows no trace of condensation at any point, and by the slightly more robust form with the relatively somewhat wider prothorax, with sides more nearly continuous with those of the elytra.

#### DINOCLEUS Csy.

**D. hystrix** n. sp.—Oblong oval, not very robust, black, very densely clothed above with nearly white recumbent hair and numerous long fine, erect white setae, which on the elytra are subserially arranged on the interspaces; sides of beak, a broad dorsal thoracic stripe which is narrowed in front and finely divided, an elongate spot on the flanks, and several small elytral spots, subdenuded and blackish. Beak stout, not as long as the prothorax, dorsum flattened with vestiture so dense as to conceal the sculpture, but apparently not or but feebly carinate; front broadly rather deeply concave. Prothorax nearly square, sides straight and parallel to the abrupt apical constriction, the angles not tuberculiform, punctures moderately coarse, deep and close. Elytra three-eighths wider than the prothorax and two and one-half times as long, nearly twice as long as wide, sides straight and parallel to apical two-fifths; serial punctures almost completely concealed except the sutural row, not very coarse, larger in the small denuded spots which occupy the usual positions; alternate interspaces not perceptibly more prominent. Beneath densely pubescent, finely speckled with black points; legs bristling with longer hairs. Length, 8.5 mm.; width, 3 mm.

*Type*.—From Pasadena, California. Two examples collected by Dr. Fenyes in February.

This is one of the most distinct species in our fauna by its dense white vestiture abundantly bristling with long erect hairs. In *pilosus* and *jacobinus* the elytral setae are long, but the alternate intervals are very strongly costiform in the former, while in the latter the setae are sparser and shorter and the vestiture generally darker, while in both the form is distinctly stouter and more oval.

#### PHYLLOTROX Sch.

In the Rhynchophora of North America\* Dr. LeConte describes two small species which he doubtfully refers to *Phyllotrox*. Whether either of these is a true representative of the

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\* Proc. Am. Philos. Soc., XV, p. 174.

tropical American *Phyllotrox* is still uncertain, but it may be stated as a fact that the two species described by LeConte—*nubifer* and *ferrugineus*—are at least subgenerically and probably generically distinct, and that his series of *nubifer* involves two very distinct species, one of which is congeneric with the Floridian *ferrugineus*. The true *nubifer* is at once easily separated by its short feebly curved beak, finer elytral striae, which are usually more or less irregularly or confusedly punctured toward the base, the more densely punctate elytral interspaces and usually by the prothorax and elytral suture—especially toward the base, being more or less blackish—whence the name. In the undescribed form mixed with *nubifer* the beak is longer and more arcuate, the elytral striae coarser and regularly punctate throughout, the intervals more sparsely punctulate, the legs less stout, and the upper surface never with darker areas. As indicated above, these characters are shared with *ferrugineus*, and to these two may be added three other apparently distinct forms to be described below.

With *nubifer* belongs the New Mexican *quadricollis* described by the writer,\* and for these the genus *Phyllotrox* may be retained pending further information. *Ferrugineus* and allies are less in harmony with the preceding than they are with *Euclyptus* Dietz, to the generic description of which they conform closely and to the type of which—*E. testaceus*†—they are very similar. The genus *Hypotheschus*† recently described by the writer is very near *Euclyptus*, differing chiefly in its sharply toothed claws, long second funicular joint and black color. In the species of the *ferrugineus* series the claws are merely thickened and obtusely angulate at base, while in *nubifer* and *quadricollis* they are quite simple.

The two species of *Phyllotrox* known to me easily separate as follows:

Size larger, prothorax relatively wider, beak a little shorter, antennal club longer than funicular joints 2-7, pygidial groove not attaining the apex (New Mexico).....**quadricollis.**

\* Trans. Am. Ent. Soc., XXXIII, 1907, p. 265.

† Trans. Am. Ent. Soc., XVIII, 1891, p. 272.

Size smaller, prothorax narrower, beak a trifle longer, antennal club barely as long as funicular joints 2-7, pygidial groove nearly attaining the apex (California, Arizona, New Mexico, Colorado).....**nubifer.**

### **EUCLYPTUS** Dietz.

The species of *Euclyptus*, except *testaceus*, which I have not sufficiently examined, are separable as below.

Size larger, about 2 mm. in length, elytra more than one-half longer than wide, and almost two and one-half times as long as the prothorax.

Last ventral segment moderately coarsely and closely punctate, nearly or quite as long as the two preceding in the ♀, and longer than the two preceding in the ♂.

Last ventral of ♀ broadly rather strongly tumid posteriorly, that of the ♂ flat and without apical emargination (New Mexico).....**derivatus.**

Last ventral of ♀ nearly flat, becoming feebly broadly impressed at middle apically; last ventral of ♂ minutely emarginate at apex.

Form stouter, elytra not widening appreciably posteriorly (California, Arizona).....**rutilus.**

Form, including legs, more slender, elytra widest at or a little behind the middle (♀ not known) (Colorado).

### **sejunctus.**

Ventral segments finely sparsely punctate, the last three subequal in length in the ♀ (♂ not known) (New Mexico).

### **equisectus.**

Size smaller,  $1\frac{1}{2}$  mm. in length, the elytra rather less than one-half longer than wide and about two and one-fourth times as long as the prothorax.....**ferrugineus.**

As compared with *ferrugineus*, the size in *testaceus* is evidently larger, the prothorax is relatively a bit wider, the last ventral a little longer, being distinctly longer than the two preceding together; the metasternum apparently more coarsely punctate, not clearly visible in *ferrugineus*.

**E. rutilus** n. sp.—Elongate oval, rufotestaceous, the metasternum usually brown or piceous, lustre rather dull, pubescence recumbent, not dense, and of a bright golden yellow color. Beak (♂) about as long as the prothorax, regularly moderately strongly arcuate, cylindrical, rather densely punctate, the punctures tending to become confluent longitudinally. Antennae (♂) inserted at apical two-fifths, slightly more basal but evidently beyond the middle in the ♀, in which sex the beak is a little longer and less densely punctured and more

shining toward the apex. Scape nearly attaining the eyes; funicle 7-jointed, basal joint obconic, nearly twice as long as wide, much wider than, and nearly twice as long, as the second, the latter similar in form but shorter, about one-third longer than wide and not quite as long as the next two; joints 3-7 short, gradually increasing in width, the 7th about half as wide as the club, the latter blackish, broadly oval pointed, about as long as the preceding five joints. Prothorax slightly longer than wide, sides broadly arcuate, subparallel basally, narrowed anteriorly and feebly constricted at apex, surface densely moderately coarsely punctate. Elytra three-fifths wider than the prothorax and nearly two and one-half times as long, two-thirds longer than wide, sides feebly arcuate or subparallel basally, discal striae regular, feebly impressed, closely rather coarsely punctured, intervals wider than the striae, nearly flat, subbiseriately punctulate. Beneath more sparsely pubescent and shining, moderately punctate, the last ventral rather coarsely and closely so. Last ventral (♂) longer than the two preceding, flat, apex with a small apical notch; in the ♀ subequal in length to the two preceding, surface broadly flatly impressed at middle apically. Length, 1.9-2.4 mm.; width, .8-1 mm.

California—Santa Barbara, February (type, ♂), Lake Tahoe, July. Huachuca Mountains, Arizona (Wenzel).

According to Dr. Van Dyke occurs on *Ceanothus*. In the Arizona specimens the pubescence is not so distinctly golden as in the typical Californian form.

**E. derivatus** n. sp.—Very similar to the preceding, but separable by the sexual characters of the last ventral as given in the table. The pubescence is ochreo-cinereous rather than golden in the specimens before me, and there is a marked tendency for the head, including the beak, the prothorax and the greater part of the under surface to become darker or even piceous in color. The second funicular joint is shorter, barely perceptibly longer than wide, the outer joints wider and thinner, almost disk-like, the seventh two-thirds or three-fourths as wide as the club.

Specimens were collected at Cloudcroft, New Mexico (type, ♀), in June by both Viereck and Knaus. Two ♂'s among the Huachuca Mountains specimens sent me by Mr. Wenzel agree with these in the non-emarginate last ventral and antennal characters and doubtless belong here.

**E. equisectus** n. sp.—Very similar in form and facies to the two preceding species, but with the surface, especially of the prothorax, more shining; color rufotestaceous, metasternum but slightly darker, ventral surface flavotestaceous. Beak (♀) longer than the prothorax,

very evidently less arcuate than in the preceding; antennae inserted at apical two-fifths, funicular joints short, the second very little longer than wide but nearly as long as the two following; seventh about two-thirds as wide as the club. Prothorax a little narrower and less closely punctate than in *rutilus* and *derivatus*; elytral striae rather finer, the intervals a little wider. Ventral surface sparsely very finely punctate, the last three segments of nearly equal length; terminal segment broadly feebly impressed at middle apically, the two preceding segments each with a narrower basal impression. Length, 2.4 mm.; width barely 1 mm.

*Type*.—♀; from Cloudcroft, New Mexico (Knaus).

**E. sejunctus** n. sp.—Rufotestaceous; head, beak, elytral suture and side margin (narrowly) brownish-piceous, body beneath nearly black. Above rather thinly ochreo-cinereous pubescent, surface quite strongly shining. Beak (♂) just perceptibly longer than the prothorax, moderately and evenly arcuate, densely strigose punctate and dull. Antennae inserted at apical two-fifths of beak, first funicular joint about twice as long as wide and longer than the next two, second similarly proportioned but much smaller, as long as the next two united; following joints evidently transverse, the seventh not much more than half as wide as the club, the latter scarcely as long as the four preceding joints. Prothorax a little longer than wide, sides broadly arcuate, surface moderately strongly and closely punctate, the punctures well separated, however, the intervals shining. Elytra three-fifths longer than wide and about four-fifths wider than the prothorax, sides feebly arcuate and a little divergent from base to middle; striae fine, intervals wide and very finely remotely punctulate. Body beneath more strongly but not very closely punctate; last ventral as long as the two preceding segments and with a very small and shallow apical emargination. Legs entirely pale and rather slender. Length, 2.1 mm.; width, .8 mm.

*Type*.—From Colorado. A single ♂ given me by Mr. Blanchard.

The position of this species in the table is somewhat tentative, the ♀ being unknown; it is, however, readily separated from *rutilus* and *derivatus* by its less robust form and less closely punctured and more shining surface. It is more like *equisectus* in these respects, but differs in the longer basal funicular joints, and somewhat in form as well as color.

**E. ferrugineus** Lec.

The description of this species, which is fairly characteristic, is based on a unique female from Florida. It is smaller



than any of the western forms—length 1.5 mm.—the beak is very slender, evenly rather strongly curved, finely punctate and apparently not at all strigose; eyes a little more prominent than in the Californian species; last ventral nearly flat and as long as the two preceding. The prothorax is barely as long as wide, elytra two and one-fourth times as long as the prothorax, and rather less than one-half longer than wide. I have seen no other specimen.

### ANTHONOMUS Germ.

The following notes on the species of this and allied genera are to a considerable extent the result of a recent examination of some of the types in the LeConte, and also in the W. G. Dietz Collection, now in the Museum of Comparative Zoölogy at Cambridge, Mass.

#### A. pusillus Lec.

In Dietz's Revision this species is recorded solely from Massachusetts. The unique type, as stated in the original description, was from Texas (collected by Belfrage), but by some accident has disappeared from the point and is doubtless lost, as I looked carefully for it in the bottom of the box without success. There are, however, two Columbus, Texas, examples of *pusillus* in the general mixture of unplaced specimens at the end of the box, and these no doubt are precisely like the lost type. The greater number of specimens of this species now in collections are probably from Massachusetts, where it has been taken in numbers near Lowell on *Helianthemum canadense* by Mr. Frederick Blanchard, who speaks of it at some length in *Entomologica Americana*, Vol. III, p. 87.

#### A. hamiltoni Dietz.

So far as I can see, this differs from *pusillus* only in having the scales a little yellower, and the subdenuded area of the elytra better defined. I should have little hesitancy in uniting them.

#### A. vulpinus Dietz.

I see no possible means of separating this from *profundus* Lec. There are perfect intermediates in size and color in

the LeConte series, and there is, I think, sufficient individual variability in the lengths of the funicular joints to cover the differences given by Dietz, which do not look as important in the specimens themselves as they appear on paper.

**A. rubidus** Lec.

The accessory cusp on the front thighs of which Dietz speaks in his table, is faintly indicated in the type, and is rather more pronounced in some examples of *profundus*, in which both LeConte and Dietz say it is absent. The two species are, of course, quite distinct, but the accessory cusp is not to be relied upon as a distinguishing character.

**A. haematopus** Boh.

Both LeConte and Dietz have expressed themselves as pretty well satisfied that this is the same as *sycophanta* Walsh., and I am myself convinced of it. *Bolteri* Dietz and *confusus* Dietz are exceedingly close to and, perhaps, only varieties of the above; but of this I do not yet feel assured.

**A. brunnipennis** Mann.

There is no very good reason for believing that the single example so identified by LeConte is the true *brunnipennis*. Mannerheim's description is very brief, but calls for an insect two lines long excluding the rostrum, finely pubescent, pitchy black with brown elytra. LeConte's specimen is a ♀, considerably smaller, uniform in color, and rather sparsely but truly squamose.

Specimens taken by Mr. H. S. Barber at Blair's Ranch, Humboldt County, California, are apparently identical with the LeConte specimen, which was taken by Crotch at Geysers, California. This species should be placed near *murinus* of the *squamosus* group, differing from the latter by its more coarsely punctured thorax, more unevenly disposed vestiture which is condensed on the median line and at the sides of the prothorax, and more or less at the middle of the fourth and toward the base of the sixth elytral intervals.

I have seen a number of examples of the Californian *morulus* with brown elytra, and here the vestiture would fit Mannerheim's expression "tenuiter pubescens," but the prothorax is not conspicuously "profunde rugoso-punctate,"

the tibiae and tarsi are not ferruginous, at least in mature specimens, and the size is much too small. I have as yet seen nothing that fairly fits Mannerheim's description, and should be glad to hear from any collector who believes he has a good *brunnipennis*.

**A. melancholicus** Dietz.

I have scarcely a particle of hesitation in pronouncing this and *murinus* of the *squamosus* group identical. *Melancholicus* is truly a squamose species and should be transferred to the *squamosus* group, replacing there the name *murinus* which becomes a synonym. I am unable to detect an appreciable tooth on the middle thighs in *melancholicus*, in fact, in this and all other respects they appear to agree, comparison being made between the two types, which are both ♀'s. There is a second example of *melancholicus*—a ♂, and with the ♀ type of *murinus* are two other examples which are probably not identical, one from Texas, the other from California (not Colorado).

**A. sulcifrons** Lec.

This cannot be separated from *musculus* Say. It is not black as LeConte describes, but pitchy brown, the elytra at least very plainly so. I do not consider the form of the frontal fovea to be of much significance. It varies much in depth and distinctness and tends to become elongate in some individuals when normally more or less punctiform. The narrow impressed line in the type of *sulfifrons* is probably accidental, as none of the other three placed in the series by Dietz have it—these at least would all make good *musculus*.

**A. sexguttata** Dietz.

Dietz says the front is sulcate in this species; I found the fovea approximately punctiform in all the specimens of his series that I examined.

**A. albopilosus** Dietz.

I cannot remember whether any one has called attention to the small tooth on the inner edge near the apex of the hind tibiae in the ♂ of this species. The character is a unique one.

**A. solani** nov. sp.

Very closely related to the *aeneolus* of Dietz with which it was confused by that author. The type of *aeneolus* is from Columbus, Texas. The Los Angeles and Arizona examples included by Dietz belong to the present species. This differs most obviously from *aeneolus* in its somewhat broader form, and in having the prothorax narrowed from the base or very close to it, while in *aeneolus* the sides are rounded in at base, the point of maximum width being at or near the basal third. The tarsi and the tibiae in outer half are rather conspicuously paler in *aeneolus*, only slightly so as a rule in *solani*. Dietz describes the antennae as inserted at about one-half from the apex. This is substantially accurate for the ♀'s, but in the ♂'s of both species, the point of insertion is about two-fifths from the apex of the beak.

*Solani* has occurred in some numbers on *Solanum nigrum* near Pomona, California (type ♂), in October and November. One specimen bears date "Apr. 23."

This species was originally identified for me as *aeneolus*, and is the one so recorded in my So. California List.

**A. obtrusus** n. sp.—Uniformly piceous brown, moderately shining, clothed above conspicuously but not densely with pale ochreous squamiform hairs, which are condensed on the scutellum, somewhat on the median line of the prothorax, and in two posterior transverse elytral fasciae which nearly reach the suture and enclose a less pubescent area. Body beneath with similar squamiform hairs except on the ventral segments, which are finely pubescent. Antennae testaceous, club piceous; second funicular joint rather less than twice as long as wide, and about two-thirds longer than the following joint, which is very nearly as wide as long. Head sparsely punctulate. Beak a little longer than the head and prothorax, shining and punctate at apex, finely strigose and opaque with feeble lateral sulci behind the antennal insertion, which is at the apical two-fifths; median line finely carinate; front finely and feebly sulcate; eyes separated by one-half the width of the beak. Prothorax one-half wider than long, sides distinctly arcuate, widest at about the middle, hind angles obtuse, apical constriction not strong, punctuation close and moderately coarse. Elytra one-fourth longer than wide, sides subparallel for three-fifths their length, striae finely impressed, moderately punctate; intervals feebly convex, not evidently punctate. All the femora armed with an acute tooth

which is quite small on the posterior pair; claws with a moderately long tooth, tibiae straight. Length 2 mm.

*Type*.—From Brownsville, Texas.

Described from a single ♂ example which seems to be most closely allied to *sulcifrons*, but distinguishable by the coarser and denser vestiture, longer beak, paler antennae, and finer and less coarsely punctate striae.

Since writing the above I have examined the LeConte and Dietz Collections, and have come to the conclusion, already expressed in a note on *sulcifrons*, that this latter is not separable from *musculus*, which name may therefore be substituted for *sulcifrons* in the above paragraph.

The species which I have here described seems to be identical with two Texan specimens included by Dietz with his *vespertinus*, the type of which comes from Jacksonville, Fla. In this type the frontal fovea is not obviously elongate (Dietz says sulcate in his description but foveate in his table), the vestiture is nearly white, surface lustre dull, not very coarsely pubescent above except in condensed areas, where the hairs are squamiform, but beneath they are more properly scales, and are very dense on the under side of the head and sides of the body. Above they are denser on the median line of the prothorax and in two transverse elytral fasciae, the anterior consisting of three spots occupying intervals 4-6-8, the posterior less distinctly defined but seemingly similarly formed. The insect is in good condition but apparently somewhat immature.

In the two Texan examples which follow the type of *vespertinus* the vestiture of the upper surface is ochreous, more uniformly squamiform, the fasciae not evidently broken into spots; vestiture beneath very much the same in character as above and not conspicuously more scale like, elytra distinctly shining. Both specimens are ♀'s, with the antennae inserted slightly beyond the middle of the beak.

**A. basidens** n. sp.—Robust, oval, deep black; antennae testaceous at base, becoming gradually darker externally, the club piceous. Above subglabrous, the pubescence excessively short, fine and sparse, except for the scutellum and a small area of equal size posteriorly con-

tiguous to it on each sutural interspace which is densely clothed with white squamules; beneath normally sparsely pubescent, the hairs fine on the abdomen, coarser on the sterna. Head alutaceous, opaque, finely sparsely punctate; frontal fovea punctiform, eyes separated by scarcely half of the width of the beak, the latter as long as the front femora, coarsely striate almost throughout, the striae punctate; antennae inserted at the apical two-fifths ( $\sigma$ ) or just beyond the middle ( $\varphi$ ); second funicular joint not quite twice as long as wide, nearly as long as the next two; third about as long as wide. Prothorax distinctly transverse, sides arcuate and very little convergent in basal two-thirds, thence more strongly convergent and sinuate to apex; hind angles a little obtuse; punctuation close, moderately coarse, the intervals alutaceous and dull. Elytra short, not more than one-fourth longer than wide, three-fifths wider than the prothorax, sides nearly straight in basal half, striae rather coarse, well impressed and rather strongly punctate; intervals convex, very minutely transversely rugulose, feebly shining, the hairs excessively short and fine; basal margin with a transverse dentiform prominence at the base of the third interspace. All the femora acutely toothed, the tooth of the anterior femur larger as usual, acutely triangular and longer than wide; tibiae straight; ungual teeth moderate, approximate at tip. Length 1.7-2 mm.

*Type*.— $\sigma$ ; from Santa Rosa, Lower California (Beyer).

This species will fall near *ebeninus* in Dietz's table, but is abundantly distinct from any other species known to me. The peculiar basal dentiform prominences of the elytra are characteristic and I think unique, at least so far as our fauna is concerned.

**A. obesulus** n. sp.—Very robust, black, above rather thinly clothed with elongate yellowish-gray scales which are more or less condensed and whiter in a median and sublateral vittae on the prothorax, scutellum densely clothed with white scales, also a short line of similar scales on the fourth just behind the middle and at the base of the sixth elytral interspaces; beneath more densely albo-squamose, especially at the sides of the sterna, the vestiture of the ventral segments sparser and more hair like. Head numerous punctate, frontal fovea fine, linear; eyes separated by slightly less than the width of the beak. Beak rather slender, feebly curved, nearly half as long as the body, finely punctate, the punctures more or less confluent longitudinally, but without well defined striae; lustre dull in basal half, more shining apically. Antennae inserted near the middle of the beak, rufotestaceous basally, outer joints gradually darker, club dusky, slender, funicle 7-jointed, second joint nearly twice as long as wide and subequal to

the next two, which are mutually equal and fully as long as wide. Prothorax strongly transverse, sides moderately convergent from the base and nearly straight for two-fifths their length, then rapidly arcuately narrowed to the apical constriction; punctuation dense and moderately coarse, the punctures in mutual contact or very nearly so. Elytra three-fifths wider than the prothorax, one-sixth longer than wide, sides parallel in basal half, striae rather finely impressed, moderately punctate; intervals nearly flat, about three times as wide as the striae, sparsely punctulate and moderately shining. Second ventral segment distinctly longer than the third, the latter just visibly longer than the fourth, fifth as long as the third. Legs black, tarsi becoming piceous brown; all the femora apparently unarmed. Length, 2.3 mm.; width, 1.4 mm.

*Type*.—From Ormsby County, Nevada (Baker).

The type is a ♀, and with it I place a ♂ from the same locality which is almost surely identical; it is a little less robust, the vestiture a trifle sparser, the pronotal vittae obsolete, and the short elytral vittae while evident, are much less conspicuous; the front thighs have a barely visible obtuse tooth, the hind tibiae are slightly incurved at apex, but scarcely enough to throw the species into the subgenus *Cnemoscyllus*. If it were so referred, however, it is at once distinguishable from any of the species with 7-jointed funicle by its stouter form and sparser vestiture. The species seems best referred to the *squamosus* group, from all of which it differs by its stouter form. The vestiture is sparser than in any of the species with nearly unarmed femora; *murinus* approaches it in this respect, but in this latter the scales are unicolorous.

**A. appositus** n. sp.—Rufopiceous; legs, beak and antennae rufous; body densely clothed with pale ochreous to brown, and whitish scales, the latter forming three conspicuous vittae on the prothorax, covering the scutellum, the fourth and sixth elytral intervals for the greater part of their length, intervals 8–10 in great part; there are also numerous white scales on the sutural interval, and those of the under-surface are mostly of this color. Beak (♂) longer than the head and prothorax, rather densely punctate and striate throughout; dull and squamose basally, more shining apically. Eyes separated by a little less than the width of the beak. Antennae inserted at about the apical two-fifths of the beak in the ♂, a little beyond the middle in the ♀; funicle 7-jointed, second joint twice as long as wide, nearly twice as long as the third and subequal to the third and fourth united. Prothorax a little wider than long, sides moderately arcuate and strongly

convergent from the base, apical constriction feeble, surface densely punctate; scales ovate, acutely pointed behind, subcontiguous but not entirely concealing the punctures. Elytra about one-third wider than the prothorax, humeral angles moderate, sides parallel in basal half, striae and punctures moderate, intervals nearly flat, minutely rugulose, scarcely shining. Ventral surface moderately densely scaly, the scales narrower than at the sides of the sterna, becoming hair-like at the middle of the fourth segment, the fifth truly pubescent. All the thighs armed with a small acute subspiniform tooth, less obvious but quite distinct on the posterior pair. Length, 3-3.2 mm.; width, 1.4-1.6 mm.

*Type*.—♂. Huachuca Mountains, Arizona (♂ ♀); Havre, Montana, one ♂ collected by Professor Wickham is apparently identical.

Closely related to *tectus*, but differing in its longer second funicular joint and denser vestiture. It is still nearer to *heterothecae* Pierce, but is much larger and more conspicuously vittate than a specimen of the latter kindly sent me by Mr. Pierce. This specimen is 2.2 mm. in length, and this is the length given by Mr. Pierce in his description. In *tectus* the second funicular joint is normally short, very distinctly less than twice as long as wide and much shorter than the two following united.

#### A. *tectus* Lec.

Dietz records as the habitat of this species—Arizona, New Mexico, Colorado and Utah. He has certainly confused two or more species under this name, none of which perhaps are the real *tectus*, the unique type of which is from Massachusetts. In the original description Massachusetts and Georgia are given as localities, but the representative from the latter region is not now in the LeConte cabinet; possibly it may be in the Horn Collection. The western limits of this species are as yet undetermined. Specimens from Belvidere, Kansas, sent me by Mr. Knaus are very close indeed to typical *tectus* and I so place them, but the probability is great that specimens from the Rocky Mountains and further west are not identical with the New England type. *Tectus* has been taken in numbers in recent years at Tyngsboro, Mass., by Mr. Blanchard, who found it on wild asters (*Diplopopus*) in September.



**A. molochinus** Dietz.

Specimens in no way distinguishable from the Montana type have been taken at Franconia, New Hampshire, in September or October by Mrs. Slosson, who writes that they were swept from wild asters in a limited area.

**A. mimicanus** n. sp.—Moderately elongate, piceous; legs, beak and antennae—except the club—rufotestaceous; body very densely clothed with broad overlapping grayish-white scales which completely conceal the sculpture. Beak ( $\sigma^7$ ) as long as the head and prothorax, moderately arcuate, not densely punctate, the punctures arranged serially toward the base; antennae inserted at apical two-fifths, funicle 6-jointed, second joint about twice as long as wide, one-half longer than the third and subequal to the second and third united. Eyes separated by slightly less than the basal width of the beak. Prothorax a little wider than long, sides parallel and broadly rounded in basal two-thirds, apical constriction feeble. Elytra obviously but not greatly wider than the prothorax, elongate oblong, sides parallel to behind the middle. Fifth ventral segment about one-half longer than the fourth, the latter equal to the third. Front thighs minutely toothed; hind tibiae straight; claws small with a short acute basal tooth. Length, 1.7–2.2 mm.; width, .7–.9 mm.

*Type*.— $\sigma^7$ ; from Tuscon, Arizona (Wickham).

Very similar to *canus* but a little stouter, the hind tibiae not curved in the  $\sigma^7$ , the last ventral less elongate and the claw tooth slightly shorter. Because of the unmodified hind tibiae of the  $\sigma^7$ , *mimicanus* must be referred to the *squamosus* group in which it is to be associated with *pauperculus* by Dietz's table.

**A. latiusculus** Dietz.

I cannot for a moment accept this as distinct from *subfasciatus* Lec. The distinctive characters given by Dietz are no more than individual. As illustrating the failure of the tabular characters, a North Carolina specimen in my collection would by the elytral fascia be *latiusculus*, but by the frontal fovea would be *subfasciatus*.

**A. moleculus** Csy.

I can see no means of separating this from *robustus* Lec. According to Casey *moleculus* differs in its "narrower form and slightly different vestiture;" according to Dietz *mole-*

*culus* is "closely allied to *robustus* with which it agrees in form and vestiture." In LeConte's description of *robustus* the thighs are said to be not toothed, and the second and third funicular joints equal or nearly so. Casey describes *moleculus* as having the front thighs toothed and the second funicular joint longer than the third. The front thighs are really toothed in *robustus*—LeConte was in error here—while the second funicular joint is, or is not, appreciably longer than the third according to the individual specimen one is examining. As Casey described from an unique he could not know this, but it is equally true in a series of both eastern and western specimens, and here as well as in many other species the variation is in some degree sexual.

The characters given by Dietz for separating *moleculus* from *robustus* are in part individual and in part non-existent; e. g. he says that the second and third funicular joints are together longer than the next three in *robustus*, which is not true.

**A. sphaeralciae** n. sp.—Elongate oblong, piceous, beak, antennae and legs bright rufous, vestiture exceedingly dense both above and below, consisting of pale ochreo-cinereous scales which are on the average about twice as long as wide, almost perfectly uniform in color above except along the median line and at the sides of the prothorax, where they are whitish. The scutellum is densely white, and there are barely perceptible traces of short paler vittae on the sutural, fourth, and sixth elytral intervals. Body beneath very densely clothed throughout with whitish scales, wider at the sides of the sterna, and narrower but not hair-like on the ventral segments. Antennal funicle 7-jointed, second joint nearly twice as long as wide and not much shorter than the two following joints united. Eyes and beak nearly as in *appositus*. Prothorax very nearly as long as wide, subconical, apical constriction feeble. Front femora with a small acute tooth, middle and hind femora apparently unarmed. Hind tibiae (♂) straight, with a rather feeble parallel sided dilatation in apical fourth. Length, 3 mm.; width, 1.3 mm.

The type is a ♂ from Phoenix, Arizona, taken on *Sphaeralcea variabilis* by Prof. Cockerell. With the type I associate single specimens from Santa Rita Mountains, Arizona; Pike's Peak and Boulder, Colorado; Wallace, Kansas; and Dakota.

These all agree in bodily form, and the ♂'s (Pike's Peak and Wallace, Kansas), agree in the form of the hind tibiae. In none of these is the vestiture quite so dense as in the type, and there is some small variation in the relative lengths of the second and third funicular joints, the second being distinctly shorter and not much longer than the third in the Dakota example. Some of the other specimens are, however, intermediate in this respect, and its value therefore seems doubtful. *Sphaeralciae* should be referred to the subgenus *Cnemocyllus* because of the modified ♂ hind tibiae, which, in fact, are precisely of the same type as in *helianthi*. This latter is a stouter species, with whiter vestiture, which is more hair-like toward the abdominal apex, and with more elongate second and third funicular joints. I have recently seen specimens of *sphaeralciae* placed with *hirtus* in the Dietz Collection. In this latter species the scales are narrow and linear, in fact LeConte in his description speaks of the vestiture as "coarse scarcely squamiform pubescence."

**A. cycliferus** n. sp.—Narrowly oval, piceous, legs and antennae rufous, club fuscous; clothed very densely throughout with overlapping broadly oval or nearly circular white scales, intermixed with scattered darker scales varying from pale brown to blackish purple in color, these darker scales aggregated most noticeably in two imperfect discal pronotal vittae and in an elongate discal elytral spot at about the posterior third, and less evidently in a subbasal spot on either side of the suture. Beak about one-fourth longer than the prothorax, polished and rather finely sparsely punctate, subsulcate at sides basally, base squamose for a short distance. Antennae inserted at about two-fifths from the apex in the ♂, just perceptibly beyond the middle in the ♀; second funicular joint as long as the next two (♂), distinctly less so (♀), the third and fourth joints each a little longer than wide, the third slightly longer than the fourth. Prothorax three-fourths as long as wide, sides broadly arcuate and subparallel in basal half, moderately convergent and evidently though not strongly constricted apically; surface completely concealed by the vestiture. Elytra at base very little wider than the thorax, gradually feebly wider posteriorly, widest at about the middle; striae invisible. Front thighs with a small acute tooth, middle and hind thighs not visibly toothed. Front and middle tibiae slightly incurved at apex in both sexes; hind tibiae regularly and more strongly curved in the ♂, nearly straight in the ♀. Ungual teeth short and not approximate at their tips. Length, 2.3–2.6 mm.; width, .85–1 mm.

The type is a ♂ from St. George, Utah, collected by Prof. Wickham. With it I have placed several ♀'s from Milford, Utah, also collected by Wickham, which are doubtless identical although they differ constantly in the relatively shorter second funicular joint. A ♀ specimen labelled Santa Cruz, California, is perfectly similar to the Utah ones except in its larger area of dark scales, and is placed with them; there is possibly an error in locality.

This species is a *Cnemocyllus* and may best follow *canus*, from which it differs by its narrower form and intermixture of dark scales.

**A. tenuis** n. sp.—Also a *Cnemocyllus*. Very similar in form and vestiture to the preceding species, the differences of moment being as follows: The size in series is distinctly smaller, the general form even narrower, vestiture white throughout, and in some examples at least, a little less dense; all of the femora apparently unarmed; hind tibiae of ♂ less strongly curved; claws with longer teeth which are approximate at tip. Length, 1.6–1.9 mm.; width, .65–.75 mm.

*Type*.—A ♂ from Ormsby County, Western Nevada (Baker).

Other localities represented are Goldfield, Nevada (Nunemacher); Chad's Ranch, Utah (Wickham); Pocatello, Idaho (Wickham); Bridgeport, California (Wickham); Santa Cruz, California, this last locality open to doubt.

This is one of the species that passes as *nanus* (= *canus*) in collections. The true *nanus* is not so narrow. It was described from Texas, and probably does not occur at all in the region occupied by the present species.

**A. juncturus** n. sp.—Moderately elongate, parallel, brownish, clothed above with subcontiguous broadly oval to narrowly oval feebly contracting dull ochreous and pale brown scales, which are larger, paler and somewhat denser in three thoracic vittae, alternating with two broader stripes of narrower brownish scales. Elytra uniformly clothed with pale ochreous scales which are barely visibly denser at the middle of the fourth and toward the base of the sixth interspaces; beneath, sterna quite densely clothed with broad scales, the ventral segments with sparser narrower scales. Beak about one-fourth longer than the prothorax, moderately coarsely punctate striate, median line narrowly smooth and feebly cariniform behind the antennal insertion. Head squamose; eyes separated by a little less than the basal width

of the beak. Antennae inserted at about the apical two-fifths of the beak; funicle 6-jointed, second joint a little longer than the third, this slightly longer than the fourth. Prothorax moderately transverse, the sides broadly arcuate and convergent anteriorly, apical constriction broad and feeble, punctuation strong and dense. Elytra four-fifths longer than wide, one-fifth wider than the prothorax, sides straight and parallel for more than half their length, apex rather narrowly parabolically rounded; striae moderate, rather coarsely punctate basally, the intervals slightly convex. Femora unarmed; hind tibiae sinuate interiorly but not visibly bent; claws armed with very short but finely acuminate basal teeth which are not approximate at tips. Length, 2.15 mm.; width, .8 mm.

*Type*.—From Ensenada, Lower California. A single ♂ specimen.

The derm throughout is brownish in color and may possibly indicate immaturity. The last ventral segment is but little shorter than the two preceding united. Although the hind tibiae are not visibly bent, the general aspect is that of *Cnemocyllus* and its place is apparently near *ligatus*, which Dietz placed in this subgenus for like reasons.

According to Dietz the claws in *legatus* are armed with a short obtuse tooth, and the elytra show a dark "denuded fascia" extending from the sides to the fourth interspace; the elytra are also both by description and in the figure more nearly equal to the prothorax in width than in the present species. In an El Paso, Texas, specimen which I have confidently determined as *ligatus*, after comparison with the Deitz Collection, the vestiture is very dense, the scales more or less overlapping throughout.

**A. canus** Lec., **A. affinis** Lec., **A. nanus** Lec.

After repeated and careful examination of the types of these three supposed species I am pretty well convinced that they constitute but a single species. They are all from the same source and very probably from the same locality, and there appear to be absolutely no differences except size and relative length of the second funicular joint. The LeConte Collection contains the following representatives.

*Canus*.—One ♂, 2.3 mm. long excluding beak, hind tibiae rather feebly nearly evenly curved, second funicular joint as

long as the next two, last ventral not much shorter than the two preceding united. LeConte's original description calls for four specimens, but the collection now contains only the unique type here briefly characterized.

*Affinis*.—Type ♀, 1.95 mm. long, hind tibiae straight, second funicular joint a little longer than wide and a little longer than the third, but evidently shorter than the next two; last ventral distinctly shorter than the two preceding.

Second example—a ♂—2 mm. long, agreeing with *canus* except that the second funicular joint is shorter, about one-half longer than wide, and relatively longer than in the first example though shorter than in *canus*.

Third example—♀, 2.1 mm. long, second funicular joint twice as long as wide and four-fifths as long as the two following.

*Nanus*.—Type, ♀, 1.6 mm. long, virtually identical in antennal formation with type of *affinis*.

The types of *canus* and *affinis* have the scaly covering pretty well preserved and seem to be uniformly white; all other examples are much abraded, but the scales are large and white in all specimens.

The *nanus* of the Dietz Revision and of most collections is not the true *nanus* of LeConte, but either the *A. tenuis* or the *Epimechus gracilis* of the present paper.

#### **Neomastix punctulatus** Dietz.

Dietz expresses a doubt of the distinctness of this from *solidaginis*. I believe his suspicions are well grounded and should call them identical.

### **EPIMECHUS** Dietz.

**E. gracilis** n. sp.—Form very narrow and elongate, black, antennae—except the club,—legs and sometimes the beak rufous or rufotestaceous; vestiture dense, white throughout, consisting of large broadly oval or rounded more or less overlapping scales. Beak (♂) but slightly longer than the prothorax, shining, squamose at base, finely not densely punctate, substrate laterally. Antennae inserted at the middle of the beak in the ♂, funicle 6-jointed, second joint a little longer than the third but evidently shorter than the next two together. Prothorax evidently wider than long, widest at or a little behind the middle with the sides moderately arcuate, or with the sides subparallel and very feebly arcu-

ate in basal half; apical constriction broad; surface densely rather coarsely punctate, moderately shining when denuded. Elytra very slightly wider at base than the prothorax, twice as long as wide and three times as long as the prothorax; sides subparallel and feebly arcuate in basal two-thirds; striae moderately strongly punctured. Femora unarmed; hind tibiae not appreciably curved in the ♂; claws simple. Length, 1.5–1.75 mm.; width, .6–.65 mm.

Albuquerque, New Mexico (type ♂); Las Vegas, New Mexico; Williams and Walnut, Arizona; the latter from Prof. Wickham.

In the ♀ the beak is considerably longer and more slender, the antennae inserted scarcely perceptibly behind the middle. The last ventral is about one-half longer than the preceding in the ♂, scarcely longer than the preceding in the ♀, in which it bears a median rounded impression.

This species is strikingly similar to *A. tenuis* described above, and with it is often held in collections as *nanus*, which name, indeed, it has borne in my collection for many years. The simple claws of course will at once separate it from both *tenuis* and *nanus*. In *tenuis* the antennae are inserted distinctly beyond the middle of the beak in the ♂. *E. nanulus* is a close relative of the present species and from the same type locality. It differs in its sparser vestiture, the scales less broadly rounded, the relatively greater width of the elytra as compared with the prothorax, and the black or piceous legs and antennae.

**E. canoides** n. sp.—Very like the preceding but larger, elytra at base nearly one-third wider than the prothorax, abdomen clothed medially with sparser narrower scales, the latter becoming hair-like on the last segment, which in the ♂ is nearly as long as the two preceding. Front thighs with a small spiniform tooth; hind tibiae distinctly though not very strongly curved in the ♂. Length, 2–2.15 mm.; width, .8–.85 mm.

*Type*.—♂; from El Paso, Texas; two ♂'s, two ♀'s.

**E. modicus** n. sp.—Piceous, legs and beak rufotestaceous, antennae pale at base, gradually infusate outwardly; vestiture whitish throughout, consisting of moderately broadly oval lanceolate scales on the prothorax, oblong and truncate on the elytra, moderately dense but not often overlapping except more or less so in three thoracic vittae and in the condensed lines occupying the greater part of the

fourth and the basal half of the sixth elytral intervals; scales broad beneath on the sterna, sparse, narrow and hair-like on the abdomen. Beak about one-half longer than the prothorax, rather finely but closely subrugose punctate and dull almost throughout, the tip feebly shining. Head with non-contiguous elongate scales, frontal fovea indistinct, eyes separated by a little less than the basal width of the beak. Antennal funicle 7-jointed, first joint nearly as long as the next three, second less than twice as long as wide and not much longer than the third; club fully as long as the five preceding joints. Prothorax moderately transverse, sides gradually not strongly convergent from the base, apical constriction very broad and feeble; punctuation moderately coarse and close. Elytra about one-fourth wider than the prothorax, humeral angles narrowly rounded, sides parallel in basal half, striae feebly impressed, moderately punctate, intervals nearly flat. Front thighs with a small acute tooth, middle and hind thighs not evidently toothed; front tibiae incurved at apex, middle and hind tibiae nearly straight. Last ventral segment but slightly longer than the preceding. Length, 2 mm.; width, .9 mm.

*Type*.—From Santa Rita Mountains, Arizona.

This species must be near *curvipes*, but the latter according to description has an ill-defined subdenuded patch at sides of elytra posteriorly, and the middle thighs obviously toothed. The hind tibiae are also said to be curved in both sexes of *curvipes*, but this seems very unlikely, and I strongly suspect that Dietz's specimens are all ♂'s.

Since writing the above I have seen the Dietz Collection and find there two examples of *curvipes*. The first, bearing the label and best fitting his description, and hence to be regarded as the type, is from Nevada. The subdenuded area called for by the description is scarcely evident, and I could not make out the tooth of the middle thighs; if present it must be very small. There is no reliable indication of sex in this specimen except the rather strongly curved hind tibiae, which in all other instances known is characteristic of the ♂; nevertheless I believe this specimen to be Dietz's supposed ♀. The second example is an undoubted ♂ from New Mexico. It is more densely scaly, the antennae inserted distinctly beyond the middle of the beak, form a little narrower, sides of prothorax more incurved at base, hind tibiae barely as strongly curved. In the Nevada type the antennal insertion is less apical, being at about the middle of the beak,



and this perhaps is why it was called a ♀ by Dietz. I feel very confident that both of Dietz's specimens are ♂'s, and that they represent distinct species. The exact relation of *modicus* to *curvipes* cannot be stated until both sexes of each form are known; for the present *modicus* may be separated by its somewhat denser vestiture, especially on the fourth and sixth elytral intervals, the lack of any trace of a lateral subdenuded area, and the pale legs. It is not unlikely that Dietz's New Mexico ♂ is identical with my *Epimechus nanulus* described from the ♀ and also from New Mexico. The very small size of *nanulus* make this a little doubtful, however, and here again we must wait till both sexes are taken together.

**E. mobilis** n. sp.—Form rather short oblong oval, piceous, legs reddish, body densely clothed above with broadly oval or rounded largely overlapping scales, ashy-gray varied more or less with pale brown to fuscous. The darker scales form two more or less obvious pronotal vittae alternating with pale. The elytra may be almost entirely cinereous, the darker scales few, or so pale as to be inconspicuous, or the latter may predominate, leaving the suture, a median vittae on the fourth interspace and the basal part of the sixth interspace pale. The antennal funicle is 6-jointed, the second joint a little longer than the third but scarcely as long as the two following, barely twice as long as wide in the ♂, but fully so in the ♀. Antennae inserted near the middle of the beak in the ♂, slightly behind the middle in the ♀, the beak rather strongly curved, subcarinate in basal half. Prothorax one-fourth wider than long, sides moderately arcuate and convergent, apical constriction rather feeble, sculpture concealed by the vestiture. Elytra one-third longer than wide, sides parallel and nearly straight in basal three-fifths. Body beneath squamose, the scales of the ventral segments narrower and less dense. Fifth ventral segment a little longer than the fourth in the ♂, scarcely so in the ♀. Legs rather stout, femora apparently completely unarmed: hind tarsi straight in both sexes. Length 2-2.25 mm.

Southern California—Pomona (type ♂), Claremont, Azusa, San Diego.

This species was first taken by me some twenty years ago and was at that time identified for me by Ulke or Horn as *nevadicus*, under which name I sent it out to numerous correspondents. A comparison which I have just made with the type of *nevadicus* shows it to be quite distinct, however,

by its notably stouter form. The lobes of the third tarsal joint are not as narrow as in *nevadicus*, and there is no appreciable tooth on the front thighs.

The following table though not quite as satisfactory in every respect as I could wish, will help to identify the species of *Epimechus* thus far described.

#### TABLE OF *Epimechus*.

Antennal funicle 7-jointed.

Pubescent species, femora unarmed.....**mimicus**.

Squamose species.

Vestiture not very dense, white.

Prothorax trivittate or non-vittate.

Size small, 1.5 mm., legs and antennae black or very nearly so.  
**nanulus**.

Size larger, 2 mm.

Elytra with ill-defined lateral subdenuded patch, scales scarcely condensed on the fourth and sixth intervals, legs black.....**curvipes**.

Elytra without trace of lateral subdenuded area, scales distinctly condensed on fourth and sixth intervals, legs pale.  
**modicus**.

Prothorax univittate.....**soriculus**.

Vestiture dense, white and yellowish-brown.....**aemulus**.

Antennal funicle 6-jointed.

Vestiture not very dense.

Scales shorter and broader, intermixed with short pubescence, front with a long linear impression between the eyes.  
**adpersus**.

Scales longer and larger without evident pubescence, front not sulcate .....**stragulus**.

Vestiture dense.

Hind tibiae straight in the ♂.

Scales yellowish-gray, more or less mixed with pale brown or purplish-brown.

Form rather stout, lobes of third tarsal joint normal.

**mobilis**.

Form distinctly more elongate, lobes of third tarsal joint unusually narrow .....**nevadicus**.

Scales uniformly white, body narrow elongate.....**gracilis**.

Hind tibiae curved in ♂.

Scales white throughout, dense and generally overlapping.

**canoides**.

Scales dull yellow, nearly uniform in color, close set, but not as a rule overlapping .....**arenicolor**.

**Alycodes dubius** Dietz.

**Elleschus angustatus** Dietz.

As suspected by Casey, both these species belong to the genus *Dorytomus*. The former is very like and probably identical with *brevicollis* Lec., the latter is close to *squamosus* Lec., and quite likely no more than a slight variety of that species. It seems to be a bit narrower than the type of *squamosus*, the elytral scales more uniform in width, the tessellation more feebly marked.

**Orchestes armatulus** Dietz.

An examination of the type shows it to be a specimen of *Psomus politus* Csy., in which the elytra are transversely fractured each side behind the humeri—presumably by being grasped too tightly with forceps—the posterior edge of the fracture being more prominent and simulating an anteriorly projecting spine when viewed from above. The error is a remarkable and scarcely excusable one, since one would expect the most careful verification of appearances by the describer before announcing so singular and unexpected a character. The true state of affairs is not very difficult to make out on close inspection, and such inspection should have revealed the very approximate eyes, pectoral channel and other features quite impossible in an *Orchestes*.

### ORCHESTES III.

**O. illinoisensis** n. sp.—Black, lustre dull; pubescence whitish, rather long and conspicuous, recumbent, dense on the scutellum. Antennal funicle 7-jointed, in great part rufotestaceous, club piceous, Prothorax one-half as wide as the elytra, sides parallel in basal two-fifths, hind angles nearly rectangular, punctuation dense but only moderately coarse. Elytra elongate oval, scarcely impressed, striae distinctly impressed, intervals somewhat rugose. Length, 2.35 mm.; width, 1.2 mm.

*Type*.—From Algonquin, Illinois (Nason). A second specimen also from northern Illinois in Mr. Blanchard's collection.

By Dietz's table this falls near *parvicollis*, which is a somewhat stouter species with more evidently impressed elytra and shorter blackish pubescence. The resemblance to *palli-*

*cornis* is closer, but this has a 6-jointed funicle, the form is slightly more slender, the prothorax relatively smaller, the pubescence less conspicuous and the elytral striae less impressed.

### CONOTRACHELUS Sch.

**C. atokanus** n. sp.—Form and size of *pusillus*, brown or piceous, densely clothed with subcontiguous oblong oval ochreous and white scales and sparse short recurved bristles, which are difficult to detect except in profile. The ochreous scales predominate and determine the general color; the white ones are aggregated in small spots on either side of the middle and at the sides of the prothorax, at the base of the third elytral interspace and at the anterior and posterior thirds of the elytral disk, the latter also with scattered small blackish areas which are due as much to exposure of the derm as to the color of the scales. Beak rather stout, moderately curved, but slightly longer than the prothorax in the ♂, a little longer in the ♀, sulcate and clothed with filiform scales behind the insertion of the antennae, which in the ♂ is at the apical third, and in the ♀ at about the middle; beyond the antennae rather coarsely punctate in the ♂, smoother and more finely punctate in the ♀. Prothorax wider than long, sides parallel and feebly arcuate in basal half, narrowed in front with moderate apical constriction; surface neither densely nor very coarsely punctate, entirely without sulci or costae. Elytra two and two-thirds times as long and a little less than twice as wide as the prothorax, one-third longer than wide, humeri nearly rectangular, narrowly rounded, sides straight and parallel for about half their length, then gradually narrowed and parabolically rounded at apex; striae punctures rather fine, the intervals wider than the striae, feebly convex, the alternate ones not appreciably more prominent except on the declivity. Beneath sparsely clothed with squamiform hairs or narrow scales, punctuation not very coarse, that of the ventral segments uniform and rather close. Mesosternum not protuberant; thighs feebly annulated and armed with a small tooth; claws with an acute basal tooth. Length, 2.8 mm.; width, 1.5 mm.

*Type*.—♂; from Atoka, Indian Territory. Three examples collected by Prof. Wickham.

One of our smallest species, resembling in a general way *pusillus*, but differing by the completely non-costate elytral intervals, non-protuberant mesosternum and generally finer punctuation. *Pusillus* seems to be very rare in collections. Two specimens, agreeing in all essentials with the type, were taken by the writer many years ago near Providence, Rhode Island. It was described from Florida.

**C. floridanus** n. sp.—Form oblong oval, nearly as in *pusillus*, piceous, tibiae and tarsi rufopiceous, closely though not very densely, somewhat unevenly clothed with narrow scales and squamiform hairs, mostly ochreous in color but sparsely intermixed with white, the latter condensed in a short transverse fascia at the summit of the elytral declivity, and in a few very small spots on the costae. One example shows four very small white spots, each consisting of from four to six squamules, arranged in a median transverse series on the prothorax, these being nearly obsolete in a second example. Beak moderately stout, about one-third longer than the prothorax in the ♂, about one-half longer than the prothorax in the ♀, shining and sparsely finely punctate apically, more coarsely punctate and substriate basally, a distinct punctiform fovea between the eyes. Antennae inserted barely visibly in advance of the middle (♂) or slightly behind the middle (♀); second and third funicular joints equal and each as long as the third and fourth united, the third slightly longer than the fourth. Prothorax not much wider than long, sides parallel and feebly arcuate in more than basal half, rather suddenly narrowed and constricted in front, surface moderately coarsely and densely punctate, the median line narrowly rather feebly cariniform, becoming obsolete basally. Elytra fully one-half wider and two and one-half times as long as the prothorax, sides parallel in basal half, then gradually parabolically rounded at apex; alternate intervals 3–5–7–9 distinctly though not very strongly costate, striae punctures moderately coarse basally, much finer toward the apex. Mesosternum protuberant, ventral segments rather finely punctate, the third and fourth very sparsely and finely so, the last segment more closely punctured, broadly convex in the ♂, nearly flat in the ♀. Thighs with a moderate tooth; claws with a small and broad basal tooth. Length, 4.4–5 mm.; width, 2.2–2.4 mm.

*Type*.—From Miami, Florida. One pair.

In the table given by LeConte in the “Rhynchophora,” *floridanus* must be placed near *posticatus*, from which it differs by its more conspicuous and coarser vestiture, more oblong form, less developed pronotal and elytral costae, and much sparser and finer ventral punctuation. In the ♀ type the posterior elytral fascia is ill-developed.

**C. neomexicanus** n. sp.—Rather closely similar in form sculpture and general facies to *elegans*, but much larger, vestiture rather coarse and denser, prevailing tint ochreous-brown, with the thoracic lines, posterior elytral band and femoral rings whitish. The elytral band is biarcuate anteriorly, most advanced on the second costa, and most developed posteriorly from the suture to the first costa, narrowed to the lateral margin, which it attains at a point opposite the first ven-

tral suture. There is a feeble incomplete pronotal carina. The beak is finely densely punctate, striate laterally toward the base, though not as conspicuously so as in *elegans*, median line cariniform basally; antennae inserted at middle. Ventral segments densely uniformly punctate, the first with a median longitudinal impression, the fifth rather broadly not deeply foveate at middle; all else nearly as in *elegans*. Length, 6.75 mm.; width, 3.15 mm.

*Type*.—From New Mexico.

A single example of doubtful sex. Though obviously related to *elegans* it is quite different from anything else in our fauna, and I have not been able to identify it with any Mexican species.

#### ACALLODES Lec.

**A. lysimachiae** n. sp.—Closely allied to *ventricosus* and *saltoides* and best described by comparison with these two species. In many respects it occupies an intermediate position. The prothorax is more nearly like *ventricosus*, but the sides are a little more oblique basally, the elytra are shorter and more ventricose than in *ventricosus*, not perceptibly longer than wide, humeri narrow and obtuse but distinct; elytral bands of narrow whitish scales, made up of elongate spots on the intervals, the spots inclining to be better developed but not appreciably more advanced on alternate intervals, as they are quite conspicuously in *ventricosus*. The space between the transverse bands is a trifle darker owing to the presence of fine blackish feebly clavate inclined hairs which are also present elsewhere on the intervals and are best observed in profile. The elytral striae are wider than in *ventricosus*, but less so than in *saltoides*. Middle and hind tibiae strongly unguiculate in the ♂; thighs scarcely toothed. In *ventricosus* the elytra are quite distinctly longer than wide, in *saltoides* wider than long according to Dietz, but in the single example before the length and width are almost exactly equal. The humeri are a little better developed in *ventricosus*, entirely wanting in *saltoides*, in which the thorax is much shorter and more rapidly narrowed from the base, the elytral striae deeper and wider, and the transverse bands ill-defined. The sutural white spot at base of elytra is present in all, but most distinct in *ventricosus*. In many specimens of *lysimachiae* the elytra are reddish-brown, in others dark brown, perhaps indicating different stages of maturity. Length, 2.5–3 mm.; width, 1.7–2 mm.

*Type*.—♂; from Tyngsboro, Massachusetts.

Taken abundantly in September on *Lysimachia stricta* by Mr. Frederick Blanchard, to whom I am indebted for a good series of specimens.

**AULEUTES** Dietz.

**A. marionis** n. sp.—Very broadly oval, pitchy brown, thinly clothed with very short concolorous hairs, with short intermixed white hairs which tend to aggregate in small scattered spots on the elytra. Beak stout, as long as the prothorax, coarsely densely punctate in feeble longitudinal sulci with raised lines between; front flat, densely punctate, orbital margins elevated. Antennal funicle 6-jointed, first three joints subequal in length, the first stouter, third just visibly shorter than the second and rather longer than the fourth and fifth together. Prothorax strongly transverse, sides parallel in basal two-fifths, apical constriction rather narrow and deep, front margin obtusely angulate each side of a small shallow median emargination, dorsal channel distinct, lateral tubercles small, acute, punctuation dense, moderately coarse. Scutellum very small but distinct, elongate, glabrous. Elytra fully as wide as long, three-fourths wider than the prothorax, humeri rather prominently rounded, sides thence gradually arcuately convergent to apex; striae punctures rather coarse, intervals alternately wider and strongly elevated, the wider ones especially roughened with small acute granules. Beneath coarsely punctured, metasternum obviously but not deeply emarginate for the tip of the beak. Legs rather slender, tarsi paler, tibiae with outer margins strongly curved near the knee but not angulate; claws with a very short acute basal tooth. Length,  $2\frac{1}{4}$  mm.; width,  $1\frac{3}{4}$  mm.

Described from a single specimen (type) taken at Marion, Massachusetts, by Mr. Frederick Blanchard. The facies is almost precisely that of *Craponius inaequalis*, the generic characters are, however, those of *Auleutes*. The 6-jointed funicle, with very long and subequal second and third joints, and the strongly elevated alternate elytral intervals, strongly characterize this species. Only one other species of the genus—the *tuberculatus* of Arizona—has a 6-jointed funicle, and in it the second and third funicular joints are shorter than the first, and the elytral intervals nearly equal in width and convexity.

**BARIS** Germ.

**B. texanus** n. sp.—Elongate oval, black, legs rufopiceous, upper surface somewhat dull from the density of the sculpture, the interspaces of the pronotum are, however, polished and of the elytra shining and feebly wrinkled; setae fine, short, recurved, distinct but not very conspicuous. Head sparsely punctate, transverse impression very broadly angulate in profile. Beak coarsely and densely punctate throughout, three-fourths as long as the prothorax, nearly evenly arcuate. Antennal funicle rather short and stout, basal joint less than twice as long as wide, seventh joint three-fourths as wide as the club

Prothorax one-tenth wider than long, sides very feebly arcuate and moderately convergent to apical fifth, then strongly arcuately narrowed to apex, which is about two-fifths as wide as the base; disk coarsely densely punctate, the punctures nearly in mutual contact throughout, median smooth line very narrow and not entire. Scutellum transverse, impressed. Elytra nearly three-fifths longer, and at the humeri one-fifth wider than the prothorax, just perceptibly narrowed from the humeri to apical third; striae rather coarse, feebly indistinctly punctate basally, intervals about one-half wider than the striae, interstitial punctures very coarse and close set, nearly as wide as the intervals, confused on the third and somewhat so for a short distance on several of the following intervals. Beneath coarsely closely punctate; prosternum nearly flat, separating the coxae by rather more than one-fourth their own diameter. Length, 3.9 mm.; width, 1.85 mm.

*Type*.—From Fedor, Texas.

This species is probably nearest *hispidula* Csy, but differs in numerous details from the description of that species, which is said to be brown, pronotal punctures separated by their own diameters, the elytral striae rather strongly punctured, the interspaces but slightly wider than the striae, each with a single series of punctures.

**B. apricoides** n. sp.—Oblong oval, rather strongly convex, dark piceous-brown, moderately shining, surface between the punctures minutely alutaceous, setae small but distinct, recumbent. Head minutely sparsely punctulate, transverse impression strong, broadly angulate in profile. Beak very short, thick, strongly arcuate in anterior outline, scarcely two-thirds as long as the prothorax, rather strongly and closely but not coarsely punctate. Antennae short, first funicular joint very little longer than wide, following joints strongly transverse, club robust oval, scarcely longer than the four preceding joints, the basal joint polished, nearly glabrous and constituting about one-half its mass. Prothorax scarcely one-sixth wider than long, sides broadly arcuate and distinctly convergent from the base to the anterior fifth, thence more strongly rounded to apex, which is about two-fifths as wide as the base; disc coarsely and densely punctate, the punctures separated by much less than half their own diameters as a rule, median impunctate line narrow and incomplete. Scutellum small, subquadrate, not or feebly impressed. Elytra slightly wider and not quite three-fourths longer than the prothorax, a little more than one-third longer than wide, sides nearly parallel, striae moderately coarse, intervals a little less than twice as wide as the striae, the second and third wider, each with a single series of coarse close set punctures which are confused only at the base of the second and third. Punctuation beneath



moderately coarse and close; prosternum broadly longitudinally impressed or concave at middle, separating the coxae by about two-thirds their own width. Length, 3.6 mm.; width, 1.65 mm.

The type is a ♂ from Cloudcroft, New Mexico, collected by Mr. Knaus. With it I have placed a series from the Chiricahua Mountains of Arizona (Clemence) and others from Nogales, Arizona (Nunenmacher). One ♂ from the Chiricahuas agrees almost perfectly with the type; the other examples are slightly stouter with the sides of the thorax a little less convergent though obviously so, and there is a more obvious confusion of the interstitial punctures of the second and third elytral intervals. This species is plainly close to *aprica* Csy, which is said, however, to be polished, prothorax one-third wider than long, with sides almost parallel and straight in basal two-thirds, and the elytral interspaces but slightly wider than the striae.

**B. tectus** n. sp.—Oblong oval, convex, black throughout, polished; setae long, white, subrecumbent and very conspicuous. Head finely sparsely punctate, transverse impression broadly angulate in profile. Beak stout, arcuate, not quite three-fourths as long as the prothorax, quite densely punctate. First funicular joint nearly twice as long as wide, second nearly as long as wide, following joints increasingly transverse; club oval, fully as long as the five preceding joints, polished and glabrous in about basal half. Prothorax not quite one-fifth wider than long, sides feebly arcuate, nearly parallel in basal half or two-thirds, apex scarcely two-fifths the basal width; disk coarsely densely punctate, punctures separated by one-third to one-half their own diameters, median smooth line narrow and incomplete. Scutellum small, subquadrate. Elytra a little wider and three-fifths longer than the prothorax, one-fifth longer than wide, sides parallel, striae moderate, intervals about two-thirds wider than the striae, second and third widest, interstitial punctures rather coarse, close set, and more or less irregular or confused on nearly all the intervals, except toward the apex. Beneath moderately coarsely closely punctate; prosternum feebly concave at middle, separating the coxae by slightly more than half their own diameters. Length, 3.4 mm.; width, 1.65 mm.

*Type*.—From Chiricahua Mountains, Arizona.

Described from a single example, apparently a male, collected and given me by Mr. V. L. Clemence.

By Casey's table this species would come between *vespertina* and *oblongula*. *Vespertina* differs in its piceous-brown color, the setae are said to be semi-erect and arranged with-

out order on the elytra, the prothorax is one-half wider than long, with the apex fully one-half as wide as the base, the elytra are relatively a little longer, and there are some other differences in detail. *Oblongula* differs notably in its dull strongly alutaceous lustre, the beak is shorter, the antennal club smaller, and there are many other differences obvious when descriptions are compared. In *tectus* the elytral setae are subequal in length to the width of the interspaces.

**B. pruininus** n. sp.—Oblong oval, black, moderately shining, with a pruinose aspect because of the numerous white setae, which are long, coarse, blunt at tip, and recumbent. Beak very short, stout, evenly arcuate, scarcely half as long as the prothorax, rather finely and not very closely punctate. Antennae nearly as in the preceding species, except that the club is here distinctly compressed. Prothorax densely punctate with a narrow median smooth line which is variable in distinctness; sides very broadly arcuate and feebly convergent from base to near the apex, thence more strongly but not very abruptly rounded, the apex about one-third as wide as the base. Elytra barely perceptibly wider than the prothorax, slightly gradually narrowed behind, intervals from two to three times as wide as the striae, the second and third widest, interstitial punctures confused on all the intervals for the greater part of their length. Prosternum feebly longitudinally concave at middle, separating the coxae by two-thirds to three-fourths their own diameters. Other characters nearly as in the preceding species. Length, 3.6–4 mm.; width, 1.8–1.95 mm.

*Type*.—From El Paso, Texas.

This and the preceding species are rather closely allied in a general way, and especially by the long conspicuous setae; the present one, however, is larger and more oval in outline, with shorter beak and more compressed antennal club.

**B. nevadicus** n. sp.—Narrowly oblong oval, black, polished, legs rufous; setae very fine, short and inconspicuous. Head finely sparsely punctate, transverse impression distinct, broadly angulate in profile. Beak stout, strongly arcuate, nearly four-fifths as long as the prothorax, rather strongly and closely punctate. First funicular joint fully two-thirds longer than wide, second nearly as long as wide, club rather small, scarcely longer than the four preceding joints. Prothorax one-fourth wider than long, sides very broadly arcuate and feebly convergent to apical fifth, thence strongly rounded to apex, which is one-half as wide as the base; surface rather coarsely and densely punctate, with narrow distinct and nearly entire smooth median line. Scutellum small, unimpressed. Elytra a little wider than and not quite twice as long as the prothorax, about one-third longer than wide; striae fine, deep,

scarcely visibly punctate, intervals a little more than twice as wide as the striae, second and third a little wider and fully three times as wide as the striae; interstitial punctures fine and not very close on the inner intervals, on the outer intervals coarser and closer and about one-half as wide as the intervals. Beneath coarsely closely punctate, the abdomen more sparsely so, especially at the middle; prosternum nearly flat, separating the coxae by slightly more than half their own diameters. Legs moderately punctate. Length, 3.75 mm.; width, 1.7 mm.

*Type*.—From Ormsby County, Nevada (Baker).

The type is a male with abdomen at base strongly impressed. The prothorax being more than half as long as the elytra would lead the student to place this species under "16" in Casey's table; but the other characters are more in harmony with the following species and lead us to "22" in the neighborhood of *sparsa*. The latter is smaller (2.8–3 mm.), dark rufopiceous in color, with distinctly sparser punctuation both of the pronotum and elytra.

#### PYCNOBARIS Csy.

**P. nigrostriatus** n. sp.—Oblong ovate, black, shining, clothed rather densely with robust parallel truncate or subtruncate recumbent white scales, which are on the average from three to four times as long as wide. Head minutely sparsely punctate. Beak robust, three-fourths as long as the prothorax, its anterior outline strongly evenly arcuate, posterior outline straight for the greater part of its length when viewed in profile; punctuation close, forming rugae at sides, squamose laterally toward the base. Antennae nearly as in *pruinosa*. Prothorax very nearly as long as wide, sides convergent and nearly straight from base to apical fifth, then strongly rounded to the well marked apical constriction; surface densely coarsely punctate, the punctures about one-third as wide as the scutellum and nearly in mutual contact. Elytra about one-third longer than wide, three-fifths longer and at the humeri about one-sixth wider than the prothorax, sides very feebly convergent from the humeri, discal striae coarse and deep, feebly punctate, glabrous; intervals but little wider than the striae, irregularly rather coarsely punctate and densely squamose, the white vestiture contrasting strongly with the black striae. Beneath densely punctured and squamose. Prosternum flat, nearly as wide between the coxae as the coxal width; transverse impressed line or sulcus deep, midway between the coxae and the front margin. Length, 3.6 mm.; width, 1.75 mm.

*Type*.—From Palm Springs, California (Fenyès).

Readily distinguished from our two previously described species by the coarser glabrous striae and narrow intervals of the elytra. The vestiture is much denser than in *pruinosa*.